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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/022,151
Filing Date: December 14, 2001
Appellant(s): NIE ET AL.

James C. Scheller
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 21 July 2006 appealing from the Office action mailed 17 February 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,081,262	GILL ET AL.	6-2000
5,588,104	LANIER ET AL.	12-1996
5,724,106	AUTRY ET AL.	3-1998
6,664,986	KOPELMAN ET AL.	12-2006

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-8, 10-16, 20-35, 39-47, 50-59 and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al. U.S. Patent 6,081,262 (hereinafter "Gill") and Lanier et al. U.S. Patent 5,588,104 (hereinafter "Lanier").

Referring to claims 1, 30 and 42, Gill teaches a method, system and machine readable medium having instructions comprising processing a request to create a scene, wherein the scene is to be able to be translated and rotated (using a multi-media authoring tool extension to create a multimedia presentation, the media object of the presentation being able to be translated and rotated via capabilities of zooming, rotating, resizing, etc. the objects) (Gill: column 3, lines 10-45, column 6, lines 49-50 and column 7, lines 1-62), processing a request to add at least two media objects to the scene (combining a plurality of media objects of multiple diverse types into

an integrated presentation) (Gill: column 3, lines 10-15 and 56-62), preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene (regulating the spatial relationship between the objects within the presentation by coordinating and managing the inputting of data into the plurality of partitions on the presentation; each object placed on the presentation has both a position and extent on the page; the user can further define the orientation and location of the imported objects by zooming, rotating, resizing, etc. the objects) (Gill: column 3, lines 21-45, column 6, lines 49-50 and column 7, lines 33-48) and displaying the scene (viewing the multimedia presentation) (Gill: column 14, lines 18-19 and column 18, lines 17-26). This is further shown in Figure 2 where a plurality of media objects are placed at certain locations on the presentation. However, Gill fails to explicitly teach the created scene is a virtual reality scene, and the processing including associating each media object with a series of views of the object from various orientations and locations in three-dimensional space. Lanier teaches the creation and manipulation of objects on a computer screen (Lanier: column 1, lines 36-45) similar to that of Gill. In addition, Lanier further teaches creating a virtual reality scene (creating a virtual reality world), and associating each object with a series of views of the object from various orientations and locations in three-dimensional space (the virtual objects in the virtual world can be viewed from a plurality of angles or distances in the three-dimensional world) (Lanier: column 1, lines 10-14, 36-45 and column 2, line 36-column 3, line 5). It would have been obvious to one of ordinary skill in the art, having the teachings of Gill and Lanier before him at the time the invention was made, to modify the method for creating a scene from a plurality of media objects of Gill to include the creation of a virtual reality scene in three-dimensional space taught by

Lanier. One would have been motivated to make such a combination in order to provide rapid access and intuitive views of numerous data having a complex structure.

Referring to claims 23 and 53, Gill teaches a method and machine readable medium having instructions comprising providing a first function to allow an application program to create a scene, wherein the scene is to be able to be translated and rotated (using a multi-media authoring tool extension to create a multimedia presentation, the media object of the presentation being able to be translated and rotated via capabilities of zooming, rotating, resizing, etc. the objects) (Gill: column 3, lines 10-45, column 6, lines 49-50 and column 7, lines 1-62), providing a second function to allow the application program to add at least two media objects to the scene (combining a plurality of media objects of multiple diverse types into an integrated presentation) (Gill: column 3, lines 10-15 and 56-62), and preparing a translation vector and a rotation matrix for each of the media objects to define an orientation and a location of each of the media objects in the scene upon receipt of a request to execute the second function (regulating the spatial relationship between the objects within the presentation by coordinating and managing the inputting of data into the plurality of partitions on the presentation; each object placed on the presentation has both a position and extent on the page; the user can further define the orientation and location of the imported objects by zooming, rotating, resizing, etc. the objects) (Gill: column 3, lines 21-45, column 7, lines 33-48 and column 6, lines 49-50). This is further shown in Figure 2 where a plurality of media objects are placed at certain locations on the presentation. However, Gill fails to explicitly teach the created scene is a virtual reality scene, and the processing including associating each media object with a series of views of the object from various orientations and locations in three-dimensional space. Lanier teaches the creation and

manipulation of objects on a computer screen (Lanier: column 1, lines 36-45) similar to that of Gill. In addition, Lanier further teaches creating a virtual reality scene (creating a virtual reality world), and associating each object with a series of views of the object from various orientations and locations in three-dimensional space (the virtual objects in the virtual world can be viewed from a plurality of angles or distances in the three-dimensional world) (Lanier: column 1, lines 10-14, 36-45 and column 2, line 36-column 3, line 5). It would have been obvious to one of ordinary skill in the art, having the teachings of Gill and Lanier before him at the time the invention was made, to modify the method for creating a scene from a plurality of media objects of Gill to include the creation of a virtual reality scene in three-dimensional space taught by Lanier. One would have been motivated to make such a combination in order to provide rapid access and intuitive view of numerous data having a complex structure.

Referring to claims 24 and 54, Gill, as modified, teach providing a third function to display the scene and the media objects in the scene and displaying the scene responsive to receiving a request to execute the third function (user activation of the presentation mode to the view multimedia presentation) (Gill: column 14, lines 18-19, column 18, lines 17-26 and Figure 5).

Referring to claims 2, 25, 31, 43 and 55, Gill, as modified, teach receiving a request to manipulate the scene (allowing the user to edit, manage and manipulate the objects on the multimedia presentation) (Gill: column 3, lines 37-44, column 4, lines 35-44 and column 10, lines 64-67).

Referring to claims 3, 26, 32, 44 and 56, Gill, as modified, teach updating the translation vector and rotation matrix for each of the media objects responsive to receiving the request to

manipulate the scene (as each one of the plurality of media objects are added to the presentation, the presentation is updated to regulate the spatial relationships among the plurality of objects and reflect the new addition) (Gill: column 3, lines 21-44).

Referring to claim 4, Gill, as modified, teach the request to manipulate is received from an application program (using the authoring tool to manage and manipulate the presentation) (Gill: column 10, lines 64-67 and column 13, lines 63-67).

Referring to claim 5, Gill, as modified, teach the request to manipulate originates from the user (the user is using the authoring tool to manage and manipulate the presentation) (Gill: column 5, lines 36-44 and column 6, lines 57-59).

Referring to claims 6, 27, 33, 45 and 57, Gill, as modified, teach the request to manipulate is one of a pan request, a zoom request, and a tilt request (allowing the user to perform operations on the objects within the presentation such as zoom, rotate, etc.) (Gill: column 6, lines 49-63).

Referring to claims 7, 28, 34, 46 and 58, Gill, as modified, teach calling one or more library functions of a plurality of library functions to manipulate the media objects (using one of the tools, or functions of the authoring tool, such as zoom, rotate, resize, etc. to manipulate the objects; for example, creating a button object using the function of the button library pixel editor) (Gill: column 6, lines 49-63 and column 11, lines 44-47).

Referring to claims 8, 29, 35, 47 and 59, Gill, as modified, teach the library functions are included in an operating system enhancement application program interface (the functions used to manipulate the objects are part of the authoring tool) (Gill: column 10, lines 64-67 and continuing onto column 11, lines 1-47).

Referring to claim 10, Gill et al. teach receiving a selection of a first media object of the media objects within the scene (selecting the media objects to rotate, resize, zoom, etc.) (column 6, lines 49-63 and column 11, lines 4-6).

Referring to claim 11, Gill, as modified, teach receiving a request to manipulate the first media object (allowing the user to edit, manage and manipulate the objects on the multimedia presentation) (Gill: column 3, lines 37-44, column 4, lines 35-44 and column 10, lines 64-67).

Referring to claim 12, Gill, as modified, teach updating the translation vector and rotation matrix for each of the media objects responsive to receiving the request to manipulate the first media object (as each one of the plurality of media objects are added to the presentation, the presentation is updated to regulate the spatial relationships among the plurality of objects and reflect the new addition; furthermore, the user can define the position and extent of each object on the presentation) (Gill: column 3, lines 21-44 and column 7, lines 33-37).

Referring to claim 13, Gill, as modified, teach the request to manipulate originates from the user (the user is using the authoring tool to manage and manipulate the presentation) (Gill: column 5, lines 36-44 and column 6, lines 57-59).

Referring to claim 14, Gill, as modified, teach the request to manipulate is one of a pan request, a zoom request, and a tilt request (allowing the user to perform operations on the objects within the presentation such as zoom, rotate, etc.) (Gill: column 6, lines 49-63).

Referring to claim 15, Gill, as modified, teach calling one or more library functions of a plurality of library functions to manipulate the media objects (using one of the tools, or functions of the authoring tool, such as zoom, rotate, resize, etc. to manipulate the objects; for example,

creating a button object using the function of the button library pixel editor) (Gill: column 6, lines 49-63 and column 11, lines 44-47).

Referring to claim 16, Gill, as modified, teach the library functions are included in a well-known operating system enhancement application program interface (the functions used to manipulate the objects are part of the authoring tool) (Gill: column 10, lines 64-67 and continuing onto column 11, lines 1-47).

Referring to claims 20, 39 and 50, Gill, as modified, teach receiving a designation of a soundtrack to be played in conjunction with displaying the scene (including audio, or sound objects such as part of a movie, in the multimedia presentation) (Gill: column 1, lines 25-27, column 3, lines 56-65 and column 10, lines 11-21).

Referring to claims 21, 40 and 51, Gill, as modified, teach the soundtrack is to be played by calling one or more library functions of a plurality of library functions (the functions of the authoring tool includes merging objects including movies, audio, etc.) (Gill: column 3, lines 56-65).

Referring to claims 22, 41 and 52, Gill, as modified, teach calling one or more library functions of a plurality of library functions to display the media objects (the authoring tool includes functions allowing it to integrate and display media objects) (Gill: column 3, lines 56-65, column 4, lines 35-44 and Figures 2-3).

Referring to claim 63, Gill, as modified, teach wherein the series of views is determined algorithmically when the media object is added to the virtual reality scene (defining an object via the x, y, z positions of points of the object) (column 2, lines 36-62).

Referring to claim 64, Gill, as modified, teach wherein in response to a request to navigate within the virtual reality scene, replacing a displayed view of the media object in the scene with a different view in the series of views based on the translation vector and rotation matrix to reorient and relocate the object (zooming, rotating, resizing, etc. the objects) (Gill: column 3, lines 21-45, column 6, lines 49-50 and column 7, lines 33-48) to match the navigation (automatically updating the three-dimensional space to reflect user made changes to the objects, allowing users to view the displayed objects from any angle or distance) (Lanier: column 2, line 63-column 3, line 5).

Claims 18-19, 37-38 and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al. U.S. Patent 6,081,262 (hereinafter "Gill") and Lanier et al. U.S. Patent 5,588,104 (hereinafter "Lanier"), as applied to claims 1, 30 and 42 above, and further in view of Autry et al. U.S. Patent 5,724,106 (hereinafter "Autry").

Referring to claims 18, 37 and 48, Gill and Lanier teach all of the limitations as applied to claims 1, 30 and 42 above. Specifically, Gill and Lanier teach associating sounds with media objects (including audio, or sound objects such as part of a movie, in the multimedia presentation) (Gill: column 1, lines 25-27, column 3, lines 56-65 and column 10, lines 11-21). However, Gill and Lanier fail to explicitly teach playing the soundtrack associated with the media object when a user selects the media object. Autry teaches a graphical user interface for displaying and controlling media objects such as pictures (Autry: column 3, lines 40-44 and column 4, lines 9-11) similar to that of Gill and Lanier. In addition, Autry further teaches playing the soundtrack associated with the media object when the media object is selected by a

user (playing a soundtrack when the user selects the icon by dragging and dropping the icon on a corresponding program) (Autry: column 16, lines 54-67 through column 17, lines 1-4). It would have been obvious to one of ordinary skill in the art, having the teachings of Gill, Lanier and Autry before him at the time the invention was made, to modify the interface for creating multimedia presentations of Gill and Lanier to include playing a soundtrack in response to user selection, taught by Autry. One would have been motivated to make such a combination in order to provide users with more options and control in designating how their created presentation will look and sound.

Referring to claims 19, 38 and 49, Gill, as modified, teach wherein the soundtrack is to be played responsively to movement of the associated media object (playing a soundtrack when the user selects the icon by dragging and dropping the icon on a corresponding program) (Autry: column 16, lines 54-67 through column 17, lines 1-4).

Claims 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al. U.S. Patent 6,081,262 (hereinafter "Gill") and Lanier et al. U.S. Patent 5,588,104 (hereinafter "Lanier"), as applied to claim 53 above, and further in view of Kopelman et al. U.S. Patent 6,664,986 (hereinafter "Kopelman").

Referring to claim 61, Gill and Lanier teaches all of the limitations as applied to claim 53 above. However, although Gill and Lanier teaches receiving video information from a camera (Gill: column 1, lines 25-48 and column 5, line 65-column 6, line 20), Gill and Lanier fail to explicitly teach wherein the series of views is captured by a camera rotated about a subject of the media object. Kopelman teaches a virtual three-dimensional display of an object (views of a

virtual 3D dental model) (Kopelman: column 2, lines 49-67) similar to that of Gill and Lanier. In addition, Kopelman further teaches wherein the series of views is captured by a camera rotated about a subject of the media object (cameras moving along a coordinate system surrounding a model object) (Kopelman: column 4, line 62-column 5, line 8). It would have been obvious to one of ordinary skill in the art, having the teachings of Gill, Lanier and Kopelman before him at the time the invention was made, to modify the creation of the virtual three dimensional scene from media objects of Gill and Lanier to include the views of an object captured by a camera taught by Kopelman. One would have been motivated to make such a combination in order to provide a user-friendly graphical user interface that will enable even the most in-proficient user to easily view and manipulate three-dimensional images.

Referring to claim 62, Gill, as modified, teach wherein the series of views is captured by a camera directed at a rotated subject of the media object (capturing views of the model via rotation of the model) (Kopelman: column 4, line 32-column 5, line 8).

(10) Response to Argument

A. Claims 1, 22, 23-24, 30, 41, 42, 52 and 53-54 are unpatentable under 35 U.S.C. 103(a) over Gill and Lanier.

The applicant argues that there is no suggestion or motivation to combine Gill and Lanier because the combination both changes the principle of operation of the primary reference and renders the reference inoperable for its intended purpose; the applicant argues that the combination changes the principle of operation because to modify Gill to create the virtual world of Lanier, into which the media objects of Gill are then integrated requires a change in the basic

desktop publishing environment of Gill and substantial reconstruction and redesign of the elements of Gill because the user would have to work in an unfamiliar environment, an environment unlike print based authoring systems. The examiner respectfully disagrees. As the applicant cited, Gill's system allows users to work in familiar environments. Similar in principle to Gill's intention of allowing users to work in familiar environments, virtual reality systems provide users with a realistic environment that closely emulates real-world objects. Three-dimensional virtual visualizations provide users who may not be skilled with working with computers and thinking in two-dimensional space, a more realistic working environment that closely resembles real-world environments. For example, if there is an image or icon of a filing cabinet displayed on the screen representing an object that can be selected to show a plurality of files, it would be helpful to display the filing cabinet image/icon as a three-dimensional image so that it actually looks like a physical filing cabinet, allowing users to easily relate the filing cabinet image to a real-world filing cabinet that holds files. Therefore, the purpose and/or advantage of virtual reality is that it allows users to work in a familiar real-world environment, which is the intentions of Gill's system.

Modifying Gill's system of creating a scene from media objects displayed on the screen such as the "Animation" object shown in Figure 2 with Lanier's system for creating three-dimensional virtual reality worlds from pictorial objects displayed on a computer screen would result in a system that allows users to create a scene from media objects in three-dimensional space; for example, the animation object in Figure 2 of Gill would become a three-dimensional animation object. Therefore, Lanier's teaching of a three-dimensional virtual reality system does not change the principle of operation of the primary reference or render the reference inoperable

for its intended purpose, but rather conform to and enhance Gill's intended purpose because the principle and purpose of Gill's print-based authoring system is to provide users with a familiar environment with which to work with and the purpose/advantage of three-dimensional virtual reality systems (such as Lanier's virtual reality system) is to provide life-like environments so that the users do not have to think/visualize images abstractly.

B. Claims 2-8, 25-29, 31-35, 43-47 and 55-59 are unpatentable under 35 U.S.C. 103(a) over Gill and Lanier.

The applicant argues that as stated with reference to claim 1, the combination of Gill and Lanier would change the principle of operation of Gill. The examiner respectfully disagrees and refers to the response to arguments cited in the above section (Section A).

C. Claims 10-16 are unpatentable under 35 U.S.C. 103(a) over Gill and Lanier.

The applicant argues that as stated with reference to claim 1, the combination of Gill and Lanier would change the principle of operation of Gill. The examiner respectfully disagrees and refers to the response to arguments cited in the above section (Section A).

D. Claims 18-21, 37-40 and 48-51 are unpatentable under 35 U.S.C. 103(a) over Gill, Lanier and Autry.

The applicant argues that Autry does not teach a media object that is added to a virtual reality scene, further comprising a soundtrack associated with the media object such that the soundtrack is to be played when the media object is selected by a user, because neither the icons

representing the remote earphones nor the programming in Autry are media objects that are added to a virtual reality scene. The examiner respectfully disagrees. Gill and Lanier teach the ability to include audio/sound with media objects (such as movies) in the multimedia presentation (Gill: column 1, lines 25-27, column 3, lines 56-65 and column 10, lines 11-12). Similar to Gill and Lanier, Autry teaches a graphical user interface that allows users to select and manipulate graphically displayed objects (column 3, lines 40-44 and column 4, lines 9-11). Autry further teaches that there are soundtracks associated with programs/windows displayed on the graphical user interface; furthermore, Autry teaches that the soundtracks associated with objects displayed on the screen can be played upon user selection/input (column 16, line 54-column 17, line 4). Therefore, the combination of Gill, Lanier and Autry would result in a graphical user interface that plays an associated soundtrack upon user selection of a corresponding media object that is displayed on the screen.

E. Claims 61-64 are unpatentable under 35 U.S.C. 103(a) over Gill, Lanier and Kopelman.

The applicant argues that Kopelman fails to describe a series of views, associated with a media object that is added to a virtual reality scene, that is actually captured by a camera rotated about a subject of the media object because the views in Kopelman are pre-set views captured by virtual cameras. The examiner respectfully disagrees. The examiner respectfully asserts that the claimed limitations do not recite that the series of views is captured by a physical camera in real time, but merely that "the series of views is capture by a camera directed at a rotated subject of the media object". Gill and Lanier teach the display of media objects on the display screen (Gill: column 1, lines 25-27, column 3, lines 56-65 and column 10, lines 11-12). Kopelman explicitly

recites "pre set views that are captured by respective virtual cameras positioned or moving along a coordinate system superimposed on a virtual surface, e.g. a sphere, surrounding and being essentially concentric with the dental model" (column 4, lines 62-67). Therefore, the combination of Gill, Lanier and Kopelman teaches a series of views that is captured by a camera, i.e. virtual camera, that is rotated/moved along a subject of the media object.

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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